EVERETT CITY COUNCIL AGENDA ITEM COVER SHEET

PROJECT TITLE:
Agreement with the University of Washington for development of new projections of changing heavy precipitation in Everett

____	Briefing
____	Proposed Action
____	Consent
X	Action
____	First Reading
____	Second Reading
____	Third Reading
____	Public Hearing
____	Budget Advisory

COUNCIL BILL #	
Originating Department	Public Works
Contact Person	Jim Miller
Phone Number	425-257-8880
FOR AGENDA OF	February 24, 2016

Initialed by:
Department Head
CAA db
Council President

Location	**Preceding Action**	**Attachments**	**Department(s) Approval**
City of Everett		Agreement	Public Works, Legal

Amount Budgeted	$30,000	
Expenditure Required	$30,000	Account Number: 401 5600 109 923 410
Budget Remaining	-0-	
Additional Required	-0-	

DETAILED SUMMARY STATEMENT:

Over the past decade, heavy rainfall events in Everett have been larger and more frequent than would be expected based on past history. This has also been observed in King County and Seattle. The Climate Impact Group at the University of Washington (UW) has been doing studies of this phenomenon for King County.

The agreement with UW is to evaluate the impacts of projected climate change on the intensity, duration and frequency of the City's heavy precipitation events. Data will provide for setting more accurate criteria for the design of upgrades to the combine sewer overflow (CSO) control system as well as the separate stormwater systems.

RECOMMENDATION (Exact action requested of Council):

Authorize the Mayor to sign an Agreement with the University of Washington for development of new projections of changing heavy precipitation in Everett, substantially in the form provided, in an amount not to exceed $30,000.

AGREEMENT BETWEEN THE CITY OF EVERETT AND THE UNIVERSITY OF WASHINGTON FOR SERVICES RELATED TO DEVELOPMENT OF NEW PROJECTIONS OF CHANGING HEAVY PRECIPITATION IN EVERETT

This Agreement is made and entered into by the City of Everett, a municipal corporation under the law of the State of Washington, herein referred to as the "City" and the University of Washington, herein referred to as "UW", an institution of higher education and an agency of the State of Washington having campuses located in Seattle and in Bothell, Washington, collectively referred to as the "Parties," for UW to provide services to the City to help evaluate the impacts of projected climate change on the City's combined sewer overflow (CSO) discharge points and stormwater management effectiveness on the City's aquatic resources ("Project").

I. Purpose

This Agreement provides the terms under which UW, under the direction of the Investigator as described in Exhibit One ("Scope of Work"), will provide services to the City as outlined in Exhibit One, attached to this Agreement and incorporated herein and made a part hereof.

II. Provision of Services

A. The provision of services under this Agreement will be managed for the City by Jim Miller, Engineering Superintendent, or other representative as designated by the City's Public Works Director, and for UW by technical contact Guillaume Mauger or administrative contact or other representative(s) as designated by UW ("Agreement Administrators").

B. In the event that a disagreement between the parties arises in the administration and provision of services under this Agreement, it shall be referred for informal resolution to the City's Public Works Director or designee, and the Dean of the College of Engineering or other representative designated by UW. This provision shall not be construed as prohibiting either Party from seeking enforcement of the terms of this Agreement, or relief or remedy from a breach of the terms of this Agreement, in law or in equity.

UW Administrative Contact:
Roberta L. Mondares
Grant and Contract Administrator
Office of Sponsored Programs
4333 Brooklyn Ave, NE
Box 359472
Seattle WA 98195-9472
Phone: 206-543-4043
Email: osp@uw.edu

UW Technical Contact:
Guillaume Mauger

III. Responsibilities

A. UW shall conduct the tasks and complete deliverables as described in Exhibit One. If UW determines that any task or deliverable is infeasible, it will notify the City and the Agreement Administrators will together modify the Scope of Work so that Project costs do not exceed $30,000.

B. UW will acknowledge the City as the funding source for work conducted under this Agreement in all publications that may result from this work.

C. UW will provide the City with the option to provide input for consideration in any manuscripts which may result from work conducted under this Agreement.

D. The City shall pay for the services provided as described in Exhibit One and make payments in accordance with the terms of Section IV, below.

E. The City will designate a staff member to perform the following project management functions: 1) act as a point of contact for UW; 2) maintain project records; 3) review invoices for payment, including invoices submitted to the City for payment; 4) coordinate project activities as needed; 5) perform quality control.

IV. Billing and Payment

A. Estimated costs to complete the scope of work are as outlined on Exhibit Two, attached to this Agreement and incorporated herein and made a part hereof.

B. UW shall not proceed to perform any unidentified tasks not specifically included in the scope of work in Exhibit One until authorized by the City's point of contact.

C. It is in the intent of the parties that the specific tasks and deliverables described in Exhibit One would be performed for a cost not to exceed $19,984. This leaves $10,016 as an amount available for undefined tasks.

D. UW will provide the City with documentation that such costs to provide services under this Agreement have been incurred in the form of usual and customary records from UW's accounting system.

E. Expenses to be reimbursed by the City shall be included on itemized invoices and shall be subject to approval by the City.

F. Payment to UW for approved invoices will be made by the City within sixty (60) days of receipt of invoices at and sent to the following addresses:

Jim Miller	Grant and Contract Accounting
Engineering Superintendent	Attention: UW OSP #A99492
Everett Public Works	University of Washington
3200 Cedar St.	12455 Collections Drive
Everett, Wa 98201	Chicago, IL 60693

G. The City represents that funds for service provision under this Agreement have been appropriated and are available for 2016. To the extent that service provision in future years requires appropriations beyond current appropriation authority, each of the Parties' obligations are contingent upon the appropriation of sufficient funds by that Party's legislative authority to complete the activities described herein. If no such appropriation is made for either Party, this Agreement will terminate at the close of the appropriation year for which the last appropriation that funds these activities was made.

V. Effectiveness and Duration

A. This Agreement is effective upon signature by both Parties and shall remain in effect until December 31, 2017.

B. This Agreement may be amended, altered, clarified, or extended only by the written agreement of the Parties hereto.

C. This Agreement is not assignable by either Party, either in whole or in part.

D. This Agreement is a complete expression of the intent of the Parties and any oral or written representations or understandings not incorporated herein are excluded. The parties recognize that time is of the essence in the performance of the provisions of this Agreement. Waiver of any default shall not be deemed to be waiver of any subsequent default. Waiver of breach of any provision of this Agreement shall not be deemed to be a waiver of any other or subsequent breach and shall not be construed to be a modification of the terms of the Agreement unless stated to be such through written approval by the parties which shall be attached to the original Agreement.

VI. Indemnification

The City shall protect, defend, indemnify, and save harmless the UW, its officers, officials, employees, and agents, while acting within the scope of their employment, from any and all costs, claims, judgments, penalties, and/or awards of damages, arising out of or in any way resulting from the City's own negligent acts or omissions. To the extent permitted by RCW 28B20.250 et seq., UW shall protect, defend, indemnify, and save harmless the City, its officers, officials, employees, and agents, while acting within the scope of their employment, from any and all costs, claims, judgments, penalties, and/or awards of damages, arising out of or in any way resulting from the UW's own negligent acts or omissions. Each Party agrees that its obligations under this subparagraph extend to any claim, demand, and/or cause of action brought by, or on behalf of, any of its employees or agents. In the event that a Party incurs any judgment, award, and/or cost arising therefrom, including attorneys' fees, to enforce the provisions of this Article VI, all such fees, expenses, and costs shall be recoverable from the responsible Party to the extent of that Party's culpability. This Article VI shall survive the termination of this Agreement.

VII. Counterparts

This Agreement may be executed in counterparts.

IN WITNESS WHEREOF, the Parties hereto have executed this agreement on the ___day of _____, 2016.

Approved as to Form

By: _____

Title: James D. Iles, City Attorney

Date:_____

City of Everett, Washington:

By: _____

Title: Ray Stephenson, Mayor

Date:_____

Attest:

_____

Sharon Fuller, City Clerk

Date:_____

University of Washington:

By: _____

Print Name: Roberta L. Mondares_____

Title: Grant and Contract Administrator and Authorized Signing Authority

Office of Sponsored Programs__

Date:_____

Scope of Work

New projections of changing heavy precipitation in the City of Everett

Investigator

Guillaume Mauger, Climate Impacts Group, UW Seattle

Proposal

Use new regional climate model simulations of 21st century changes in precipitation to develop projections that are specific to the City of Everett. Results will be tailored to address the decision needs of city planners.

Background

Changes in the intensity, duration, and frequency of precipitation may negatively affect stormwater facilities, exacerbate landslide and urban flood risk, and lead to other public safety and water quality concerns. King County has recently awarded funding to the UW Climate Impacts Group (CIG) to develop new regional climate model simulations of changing precipitation. These simulations are an improvement over statistically-based methods for "downscaling" global climate model output because they explicitly simulate the physics of changing local processes – for precipitation, the key distinction is that they simulate the interactions of weather systems with the complex terrain of the Pacific Northwest.[1]

The City of Everett currently uses a previous set of climate projections, with a middle estimate of a 9% increase in winter precipitation extremes and an 18% increase in summer extremes. These numbers are unlikely to hold for all precipitation intensities – for example, the 100-year event may not change by the same amount as the 10-year event. In addition, a median climate change estimate may not be suitable for mitigating the risks to stormwater facilities. Finally, new projections have since been developed, such that even the middle estimates, averaged over all precipitation quantiles, may no longer match the 9% and 18% estimates in use today.

The proposed work will develop updated heavy precipitation projections that are specific to the city of Everett. These will be evaluated for changes in user-specified metrics, selected for direct application to risk assessment and decision-making.

Methods

Project researchers will leverage existing regional climate model simulations to produce hourly precipitation time series and exceedance probabilities for specific locations of interest. The analysis would be based on two climate simulations that bracket the low and high end of precipitation projections for Puget Sound: one based on a cooler model and a low greenhouse

[1] Eric P. Salathé Jr., Alan F. Hamlet, Clifford F. Mass, Se-Yeun Lee, Matt Stumbaugh, and Richard Steed, 2014: Estimates of Twenty-First-Century Flood Risk in the Pacific Northwest Based on Regional Climate Model Simulations. J. Hydrometeor, 15, 1881–1899. doi: http://dx.doi.org/10.1175/JHM-D-13-0137.1

gas scenario, and another based on a warmer model run and a high scenario.[2] Both will include the years 1980 through 2099.

CIG researchers will develop estimated changes in exceedance probabilities for the city of Everett (e.g.: changes in the 2-, 10-, and 50-year events). Results will be summarized in terms of the change in both the magnitude (percent increase/decrease) and probability of heavy rain events (e.g.: how frequently will the 10-year event occur in the future?). The specific metrics analyzed will be determined in consultation with project sponsors. Changes will be evaluated for both short- (1 hour) and long-duration (48-72 hour) precipitation events.

In addition, city planners will identify several locations for which CIG researchers will produce an hourly record of simulated precipitation for the full 21st century. These can be used as input to hydrologic models, or simply as a complement to the changes in exceedance probabilities described above. Each location must have daily observations of precipitation that are sufficient for bias-correction (~30-year record is ideal) – researchers at CIG will help identify and evaluate available weather observations. For each site, an hourly time series of 21st century precipitation will be produced, obtained by bias-correcting simulated precipitation to match the observations.

Products

1. Projected change in the intensity, duration, and frequency of heavy rain events for the city of Everett.
2. Hourly time series of precipitation for historical and two future projections, developed for specific locations of interest (selected in consultation with city staff).
3. A short report describing the methodology and summarizing the results, including graphics and tabulated summaries.

UW researchers will work with city staff to ensure that products can be used as input to planning and hydrologic modeling.

Timeline

Start date: 03/01/2016.
Final products: 12/31/2016.

[2] For more information on regional climate projections and greenhouse gas scenarios, see the CIG *State of Knowledge* report: http://cses.washington.edu/cig/reports.shtml#sok

Budget

Salary *(Including benefits)*:	$12,835
Benefits:	$7,049
Travel:	$100
SubTotal:	**$19,984**
Undefined Tasks	**$10,016**
Total	**$30,000**